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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/635,945

08/10/2000

Setsuo Nakajima

SEL 203

5934

7590

03/20/2003

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EXAMINER

HU, SHOUXIANG

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/635,945

Applicant(s)

NAKAJIMA ET AL.

Examiner

Shouxiang Hu

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,6,9,12 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,6,9,12 and 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 3, 6, 9, 12 and 25-30 are objected to because of the following informalities and/or defects:

In claims 3 and 25-30, the term of "elements of a first conductivity type" should read as –impurities of a first conductivity type–, in view of the disclosure, as the term of "elements" could be misinterpreted here as meaning: multiple different chemical elements.

Claim 3, 6, 9, 12 and 25-30 are further objected to as they fail to clearly define the subject matter of the instant invention that the storage capacitor comprises only a portion of the first insulating layer and a portion of the pixel electrode

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3, 12 and 25-30, as being best understood in view of the above claim objections, are rejected under 35 U.S.C. 102(b) as being anticipated by Shin (US 5,825,449).

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Shin discloses a semiconductor device (Figs. 1a-1f; also see col. 1, lines 34-67), comprising: a substrate (1; glass); a thin film transistor comprising a gate electrode (2), a first insulating layer over the gate electrode, a channel forming region in an amorphous semiconductor layer (4), and doped source and drain regions (5); a second interlayer insulating layer (9; nitride, inorganic); a pixel electrode (6); a storage capacitor wiring ("20" and/or "2D"); and, an input terminal portion including a first layer (2A or 2B) comprising the same material as that of the gate electrode (2) and a second layer (6A) comprising the same material as that of the pixel electrode in contact with the first layer through a contact hole formed only in the first insulating layer (26), wherein the gate electrode, the storage capacitor wiring layer and the first layer in the input terminal all have a tapered shape and are formed from a same conductive layer; and the storage capacitor wiring and a portion of the pixel electrode, with a portion of the first insulating layer disposed therebetween, inherently form a storage capacitor.

It is noted that the input terminal in Shin is inherently connected to a wiring, as it is designed to receive the external signal (see col. 1, lines 52-55).

Regarding claim 12, it is noted that Shin further discloses that the TFT device is for a liquid crystal display device, which is commonly comprised in a laptop PC.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 9, as being best understood in view of the above claim objections, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin (US 5,825,449) in view of Lee et al. ("Lee"; US 6,008,065).

The disclosure of Shin is discussed as applied to claims 3, 12 and 25-30 above.

Shin does not expressly disclose that the conductive layer for the gate electrode, the storage capacitor wiring layer and the first layer in the input terminal can be formed with two layers.

However, Lee teaches to form a semiconductor device (Figs. 6 and 11) comprising a two-layer structure, in which a gate electrode (22 and 24 in Section C) and a first layer in an input terminal (22 and 24 in Section D) each have a heat-resistant electrically conductive material layer (24; Ti or Ta, see col. 5, lines 2-5) and a low-resistive electrically conductive material layer (22; Al, see col. 4, lines 66-67) for avoiding the adverse battery effect (see col. 5, lines 2-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the two-layer structure of Lee into the semiconductor device of Shin, so that an LCD device without the adverse battery effect would be obtained.

Response to Arguments

4. Applicant's arguments with respect to claims 3, 6, 9, 12 and 25-30 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is (703) 306-5729. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SH
March 19, 2003



Shouxiang Hu
Patent Examiner
TC2800